MEASURING RIVER POWER.

Recent Scientific Work in the Eastern Part of Maine.

Summer Training for the Students of the Massachusetts Institute of Technology — Speed of Flow and Quantity of Water Reckoned.

MACHIAS, Me., July 27.—A number of students from the Massachusetts Institute of Technology have been at work this summer determining the volume of water and rate of current of the Machias River, which flows down through Washington County—the easternmost county in the United States—and empties into the sea not far from Eastport. In many ways the experiments illustrated some little known problems of hydraulic engineering with unusual fullness—perhaps more fully than would be the case in work undertaken for a directly practical end. The measurement of the flow of a stream is one of the most important as well as one of the most difficult tasks that the hydraulic engineer has to encounter. Not only is this work all-essential in deciding upon the sources of municipal water supply, but the effectiveness of the hundreds of plants throughout the country which depend on water as their sole or chief source of power can be guaranteed only by his skill and observation, since it is obvious that if there should not be enough water or if the water failed to move fast enough—that is, did not have sufficient "pitch"—the water wheels simply would not turn. Or, if there is doubt or ignorance of the conditions, the full power of the stream may not be utilized, and a portion of the capital engaged will thus be employed to no purpose whatever. At the present time, especially, the value of water power has so increased since it was made possible to carry an electric current long distances, that exact knowledge of the possible power in a given "privilege" has become industrially a matter of the very first importance.

In solving such problems the engineer has to consider a variety of factors—the cost and nature of a dam, the height and character of the banks, the distance of the "back water"—the length, that is, of the level mill pond which stretches from the dam back to the stream again—which in turn gives him the full amount of "flowage" or damage which will be caused by the overflow into the "riparian" or adjacent lands. There is always, too, the important question of the general character of the river, as it may be called—whether it is "good," with an even flow of water the year round, or "bad," because subject to sudden rises from spring freshets or falls from summer droughts; so that before the engineer is through with his study of a water privilege, or a site for a water works dam or pumping station, he must have called into use his knowledge of topographical surveying, of climatology, of forestry, and of meteorology.

The institute students, however, have devoted their time in Machias to a determination of the basic factor upon which all the others rest—the flow of the river. Though the actual measurement of the rate of flow is made by floats, or by current meters, as they are called, the first thing done in getting at the flow as a whole is to obtain the cross section of the river at certain points. Marks in line—"range points" or "sights"—are set up on the bank, two on each side in tandem, so that when the "fore sight" is in line with the "back sight" the observer is on the established line. The boat from which the soundings are taken is held in position while they are made. The position of the boat, which would give the distance from the shore, is found by taking angles with a sextant to points on the banks, which are at exactly known distances apart, or by angles taken from two points on the shore to the boat, after which, by the old geometrical formula of "given one side and two angles of a triangle to determine the other side," the boat's precise position in the stream is easily reckoned. These soundings are made across the river at short intervals until a plan may be drawn which gives an irregular lower line—the bed of river—with a straight line at the top for the water level. This is reduced to a regular figure of so many square feet, so that when it is found how fast the water moves it is easy to know how much water moves. For instance, if the "cross section" of a stream reduces to 1,000 square feet and the water moves at the rate of a foot a second, in one second 1,000 cubic feet would move by, or 60,000 cubic feet a minute.

To find out how fast the water moves two methods are used. In the first a float or floats are employed. For approximate calculations a single float is allowed to be carried down by the stream. Where it is narrow enough strings are stretched across and the time the float takes in passing these is noted, but on large rivers and for more exact work a telescope with cross hairs in the field is placed on one bank and sighted at a mark or "range" on the other, and the float is timed as it passes a vertical cross hair. Where it is desired, in addition, to eliminate the influence of the wind and waves, two floats are used—one attached to the other. The upper and smaller of the two pieces floats on the surface and is used only as a "marker;" the larger one is submerged by weighting, so that it may come down stream at the real rate of the current uninfluenced by the surface agitations which retard or accelerate the speed of the marker itself.

When floats are used a number of cross sections must have been figured out, so that an average cross section for the distance traveled may be established, but where a current meter—the second method of determining the speed of flow—is used only one cross section is needed. The meter is nothing but a free screw propeller, turned by the water instead of turning it, except that it is smaller and much more delicately adjusted. By the use of the current meter the rate of flow may be determined at any point between the banks or at any depth. A dial attached to the meter registers the flow, but this dial must be read by checking the results obtained while it is thus stationary in moving water with others secured when it is being moved in still water. That is, it must be attached to a boat which is rowed at an increasing rate of speed until it reads at the same figures as in the stream—at which moment the speed of the boat, which has been accurately determined by observations, is the same as the speed of the stream itself.

CUSTOMHOUSE OFFICIALS.

A Tip Offered on the Continent May Lead to Trouble.

Continental customhouse officials are apt to ruffle the temper of British ladies who travel with numerous boxes and trunks. They sometimes have a way of ransacking them and turning apple-pie order into hopeless chaos which is irritating. But in such cases a philosophic calm and a smiling countenance are the only effective remedies.

In France the porters occasionally make a special claim when the trunks have been passed without being opened. "I promised the officer two francs if he would let you off without troubling you," said a railway employe to me one night at the Gare du Nord. "Well, you did a very foolish thing to promise money that did not belong to you," I replied, and I gave him only what he had earned. But above all things one should never offer money to a customhouse official.

A lady once came from Constantinople to an English port with a trunk full of dutiable wares. The official came on board, looked through her handbags and passed the trunks without examining them, and hurried on deck. Elated with joy, she ran after him with a sovereign to show her sense of gratitude. The captain warned her to desist, but she would have her own way, and slipped the coin into his hand. The official looked at it and at her, and then, returning the money, went back to the saloon and thoroughly overhauled the trunks. That lady had good reason to regret her impulsive gratitude before he and his superiors had done with her.

There is no country in the world where customhouse officers are more reasonable and courteous than in England. They look at the traveler, note the tone of voice in which he answers their question, glance at his luggage and treat him according to their summing up, which is generally correct.

In this connection I shall never forget a scene which took place one frosty December morning at Queenborough on the arrival of the steamer. There was a French lady on board who had a bag round which one could see her thoughts were ever centred. She would clutch is convulsively, lay it down on the ground and eye it curiously, look furtively at the other passengers and then snatch it up and walk away. An observant onlooker would be tempted to conjecture that it contained diamonds and pearls of great price.

Besides a few handkerchiefs and toilet necessaries there was nothing but 40 cigars in the bag—so the owner told a Dutch lady who had shared the same cabin with her. "I am taking them to my husband, and I don't care to pay the duty, but I am in dread lest they should be discovered." "No fear whatever," replied the other. "The customhouse officials are very liberal-minded in England. You will not be asked even to open your bag" But these assurances failed to allay the fears of the Parisienne, who grew fidgety and nervous as the time drew near for the examination.

Finally the Dutch woman took pity on her fellow-traveler, and said, just as they were crossing the bridge: "Make yourself quite easy on the subject. Give me your bag. Here take mine. You shall see how smoothly everything will go." They exchanged bags accordingly; the officials proved to be "liberal-minded," and there was no hitch anywhere.

As soon as they were comfortably seated in a first-class carriage the French dame became profuse in her manifestations of gratitude. "Oh, pray, don't mention it," replied her fellow-traveler; "I know the English people well, and I was aware there was no danger. Otherwise I should never have done what I did. I, too, have a husband who is fond of smoking, and I have brought him over a few hundred cigars. Just look at this bag that you were carrying for me." She opened it as she spoke, and the French lady nearly swooned when she saw that she had been carrying some hundreds of Dutch cigars instead of her own paltry forty.—London Telegraph.

RAILROADS IN JAPAN.

An Engineer's Talk About Their Development in Twenty Years.

S. Sugiura, of Tokyo, Japan, is on a visit of inspection to the local railway shops. His visit to St. Paul will complete a seven months' tour of the principal railway centres of the United States and Europe.

Mr. Sugiura, though only thirty years old, is the chief engineer of the largest railway system in Japan. He goes back to his home delighted with American railroads and thoroughly converted to American methods. He said last night: "The American railroads are in point of equipment vastly superior to the European roads. Your passenger trains are superb and so thoroughly typical of the great wealth of your country."

Continuing, Mr. Sugiura said American equipment and American methods are rapidly supplanting the European methods first introduced on Japanese railroads. Until about six years ago almost all of the rails and locomotives on the Japanese roads came from England; now the rails come from the United States. Two American firms have monopolized the locomotive business, and the American passenger coach is rapidly taking the place of the English compartment carriage.

The English and German engineers, who at first built all the railroads in Japan, have been replaced by native engineers, who were educated in the United States, or in the National University, where American methods are taught, and at present the only European engineers engaged in Japanese railroad construction are those employed by the Government on the construction of a viaduct for a street railway in Tokyo. Japan has a total of about 4,000 miles of railways. Twenty-five per cent of his mileage has been constructed within six years, and Mr. Sugiura says that within the next six years 1,000 miles more will be in operation.

The first line was built twenty-nine years ago. It was only twenty miles long, connecting Tokyo and Yokohama. It was built by English capital, and the material, and even some of the laborers, came from England. Since the war with China, Japan has built her own railroads. The roads are all narrow gauge, the Government fixing 3 feet 6 inches as the standard, and controlling, through the licenses issued, both passenger and freight rates.

The passenger service is divided into three classes. For the first class, used only by the nobility and tourists, the rate is 2¾ cents per mile. The middle classes travel second class and pay 1½ cents per mile, and the third-class rate is ¾ cents per mile. The service is good and the speed of the trains is gradually increased each year. The principal trains are now making an average of twenty-five miles per hour, including stops.

Railroad building of the future in Japan, Mr. Sugiura says, will involve some great engineering feats. The present lines are built along the coast and must be connected by lines extending across the mountains of the interior. Mr. Sugiura said last night although his company pays an annual dividend of 10 per cent on a capitalization of $25,000,000, the construction of the connecting lines is considered to be too expensive to make them profitable, and they will be left for the Government to build.

The Japanese Government has opened a large steel works with the hope of manufacturing its own rails and engines within the next six years. Both the national universities teach engineering, and from each graduating class the Government sends about twenty students to America to complete their education and to assimilate American ideas.—St. Paul Pioneer-Press.

SCENES AT ST. ELIZABETH

Bedridden Patients Affected by the Torrid Weather.

Everything Possible Done for Their Comfort—No Cases of Insanity Traceable to the Heat—Queer Characters and Their Hallucinations.

While Washington has sweltered and suffered during the extraordinary July weather, she has been more fortunate in one respect that many of her sister cities. So far as known, none of the Capital's citizens have lost their reason because of the heat. In other large cities all over the country men and women have become insane as a direct result of the unusually high temperature. At the Government Hospital for the Insane the patients have suffered, but under the circumstances they have fared fairly well.

"Have you received any patients whose malady was due to the excessive heat?" asked a Times reporter of Dr. Richardson, the Superintendent of St. Elizabeth's, a few days ago.

"No; I cannot say that we have," answered the superintendent. "Numerous cases here have been aggravated from that cause, but none that we can say with certainty is directly due to it. Our bedridden patients have suffered the most. We have two hundred of these, and during the very hot nights we have had such of them as could be moved out on the verandas that surround their buildings. By the way, would you like to go through the wards of these patients?"

The reporter assenting, he was entrusted to the care of a messenger, a young soldier from the Philippines and himself a patient, who took the reporter across the grounds to where the buildings containing the sick wards are situated. Here the reporter was somewhat unceremoniously introduced to the doctor in charge by the patient-messenger and was taken by the former through the hall of his neatly furnished residence, out on a veranda which ran around the building.

The doctor evidently took a pardonable pride in the grounds on which this veranda faced, and which, as he explained, he had himself planned. Arbors, summer houses (for the most part the work of patients), trees, vines, flower beds, and bushes were arranged in most attractive fashion. From this scene of cheerfulness and beauty it was sad to turn into one of the wards where the wretched sufferers drag out their existence, surrounded, it is true, with all the comfort and attention that trained skill can render.

Most, if not all, the inmates of these sick wards are aged veterans of the civil war. Here they lie in long rows, some of them mere skeletons, and many so feeble that it is a marvel how the vital spark exists at all. One man, his features as sharply accentuated as those of a corpse, lay beneath a mosquito netting, in a semi-comatose condition, in which he had been for several days as a result of the heat.

"We have had twelve cases of prostration in these wards and two deaths as a result of the hot weather so far," said the doctor.

The patients in the surgical wards present, perhaps, the saddest spectacle. It was a strange contrast here to see a young female nurse, the picture of blooming health and beauty, with rich brown hair and eyes, and a rosy complexion, bending over a veritable living skeleton. Passing along one of the porches one noticed the beds upon which the two patients had recently died, placed here to be repainted, as is the custom in such cases.

Everything in the sick wards, of which there are four, divided according to the nature of the disease treated in each, is well ordered and scrupulously clean. The same is true throughout the entire asylum. Adjacent to the buildings containing the sick wards is the "Relief Building," so designated, the doctor explained, because its erection was such a relief to the crowded patients. It is a large structure, containing seven or eight wards, divided according to the class of patients in each.

There is a notable variety of the forms of insanity to be seen among the inmates of this building. There are two specially constructed rooms for violent cases, happily unoccupied at present. The windows and doors of these rooms are strongly barricaded and the only piece of furniture in each is a strong, low iron bedstead. It is carefully seen to that there are no projections upon which the occupant could hang himself, or any other means by which he could do damage to himself or others.

It is customary to encourage the patients to go out in the grounds and, wherever possible, to give them some occupation. The inmates sometimes develop extraordinary lines of industry on their own account. The reporter was shown the room of a man who occupied himself in constructing a variety of devices out of the pits of prunes, plums, and other fruit. This small apartment was a veritable curiosity shop, littered, as it was, with knick-knacks of the most extraordinary description. Boxes with glass fronts, containing miniature grottoes made of prune stones, adorned with figures made of paper or tow; baskets of fruit pits of the most complex designs, requiring great ingenuity in their construction, doubtless, but fit for no practical purpose, were among the articles.

A man approached the visitor in one of the corridors and held before the latter's eyes a newspaper neatly folded so as to disclose a certain picture. "That's a very pretty picture of the President and his wife," said the doctor, and the man departed apparently thoroughly satisfied.

"Hullo, why aren't you boys outside enjoying the fresh air?" enquired the doctor in a general way of a group in one of the passageways. A very neatly attired individual, with a very exalted manner, took upon himself the office of spokesman.

"We were just about to; we were just about to, but—ah—my hat, you know—I could not depart without my hat."

"This is Sir Thomas Purcell," said the doctor, in an introductory way, and the visitor bowed in such manner as was befitting a distinguished personage. When asked if he had ever met the visitor before, "Sir Thomas," or, as he corrected the doctor, the "Honorable Thomas," paused a moment—"Y'es, y'es—ah—Minister to Spain, I believe—or Portugal—ah—you have been to Spain?"

The visitor assured him that he had lived there.

"Y'es," continued the poor fellow, in his affected, old-country drawl, "in travel I have visited Holland, and Austria, and Italy, and—and—the question of—of—the weather—and finances—have affected the country—ah—yesterday—Monday—and the day before—Sunday—have been very busy days—fraught with great gravity. Ah, you will excuse me while I get my hat. Ah, my kind regards," with a bow as he departed.

"He imagines himself and everyone around him very important dignitaries," said the doctor. "He is an Irishman, and was brought here from Providence, R. I., a raving maniac. Gradually the acute stage of his affliction gave place to the harmless delusions that now possess his brain. Soon after we received him letters reached us from Providence, written by a young lady, who stated she was engaged to marry him. Afterward, when he had recovered from the violent phase of his malady, she came on herself and saw him. Poor girl! He greeted her with great ceremony as the Queen of England, or some such personage—absolutely had no recollection of her, and she went away quite broken-hearted."

By this time the "Honorable Thomas" had returned with his hat—an antiquated "stovepipe" of huge dimensions, under his arm, and took his leave with great state and ceremony.

A stout, hearty-looking old man in his shirtsleeves was addressed as "King of Masons." One of the most remarkable traits in this man is the fact that he regards the English language, as usually spoken, inadequate to expressing his ideas. The words which he employs and the sense, or rather the nonsense, in which he uses them, are striking. Thus he alluded in a matter-of-fact way to a "swathe on his shy bone," and a "lummocks on his brain," though there really appeared nothing the matter with him, for he was as hale and hearty-looking an old fellow as one would care to see. Another delusion under which he labors, though he himself is convinced that the error is all on the other side, is that a gentleman of the name of Thomas Mulligan is not dead.

"Tom's not dead," he says with a knowing shake of the head and a short laugh of superior knowledge. "No, indeed, Tom's not dead."

These are only a few of the many strange characters which people see at St. Elizabeth's.

PEARL FISHING IN VENEZUELA.

Remarkable Revival of the Industry Off Margarita Island.

When the Spaniards landed on the shores of Margarita Island, off the north coast of Venezuela, four centuries ago, they found the necks of the natives adorned with strings of pearls. They lost no time in securing possession of these valuable ornaments at little expense to themselves, for the native pearl market was well stocked and prices were low. Margarita was one of the islands discovered by Columbus in his journey of 1498. The Spaniards were very eager, of course, to discover the place of origin of the pearls and only a year later a man named Guerra found the pearl banks off the south coast; it was not long before other banks were discovered around the shores of the island.

This new source of pearls was a magnet that drew many adventurers to the island. The neighborhood of Margarita became one of the busiest regions of the Spanish main. Margarita is quite a large island, though smaller than Trinidad. Its extremities, the larger part of it, are connected by a narrow isthmus, so that it has something the appearance of a dumbbell. For centuries the fishing grounds of Margarita have contributed to the world's supply of pearls, but in recent years the industry has been almost abandoned as the banks seemed to be about exhausted, while the pearls fell in value, so that fishing was not profitable.

The past few months have witnessed a wonderful revival of the industry. Pearls have advanced in price owing to the fact that the supply from larger grounds has fallen off. The large fisheries off the north coast of Australia, for example, have been yielding comparatively few pearls, and the industry is carried on there not so much for the gems as for pearl shell, or mother-of-pearl, as it is known in the trade. Times have been very dull in Margarita for many years, but there is now extraordinary activity in the island. Buyers from different parts of the world have gone to Margarita to live on that sandy and not particularly inviting island. Their business, of course, is to purchase from the native fishermen the gems they wrest from the shallow depths around the island.

There are no such lively scenes on the Grand Banks among the cod fleet as are witnessed today in the waters over the beds off the northeast and northwest shores of Margarita. About 2,000 natives and 400 sailing vessels are engaged in the industry. The long-neglected beds have had time for recuperation, and the gems fetch a good price in the Paris and other markets; so this is a harvest time for the natives, who are improving each shining hour. The Venezuelan Government, always alert to discover a new source of revenue, is deriving considerable advantage from the industry by taxing all the boats engaged in it. These boats are from three to fifteen tons in size, and the whole fleet is on the grounds during most of the daylight hours.

Back and forth the vessels sail over the oyster beds dragging big iron scoops which are soon filled with mud and oysters. They are then brought to the surface and the shells are opened and carefully examined. This is a crude and wasteful method of fishing for pearls. The great objection to it is that it tears the small as well as the large oysters from the beds, though the small shells should be left undisturbed to grow and increase in value. A French company has just begun fishing with divers and diving apparatus, which is the preferable method. The Venezuelan Government taxes only the boats of the native fishermen, but the foreigners must pay a royalty of 10 per cent on the profits of their enterprise.

The results thus far this season justify the opinion that the value of the output this year will be about $600,000. It would be much increased if the shell of the oyster were more valuable, but it is found to be too thin for the manufacture of buttons and other articles, such as are made from the shell of the Queensland and Bahrein Islands fisheries. The thinness of the shell is said to be due to the short life of the Margaritan oyster, which is not usually more than eight years. The pearls, however, are of fine quality and beautiful lustre. Most of them are white to yellow in color and sometimes an almost priceless black gem is brought to the surface. In May last a large white pearl was sold in Margarita for $1,700. Such prizes, however, are not found often, though every time a large oyster is opened the fisherman hopes he will find a pearl of unusual value. Most of the pearls go to Paris, which is regarded as the great centre for the distribution of pearls, and as the market which, on the whole, offers the best price for them.—New York Sun.

CONGRESS OF PSYCHOLOGY.

The Fifth International Gathering to Be Held in Rome.

Its Object the Investigation of Phenomena Not Included in the Regular Departments of Science — What Has Been Accomplished.

It has been decided that the Fifth International Congress of Psychology shall be held at Rome in 1904, under the direction of Prof. Sergi. It is interesting to note in this connection that the significance of the remark which Shakespeare gave to Hamlet centuries ago, "There are more things in heaven and earth, Horatio, than are dreamt of in your philosophy," is only in the present day being recognized by scientists themselves.

The object of the psychical research societies organized in Europe and this country is generally stated to be the study of phenomena not included in the observation and experiment of the regular departments of science.

The Society for Psychical Research, founded in England in 1882, had for president last year Frederick W. H. Myers, and the list of vice presidents included A. J. Balfour, Sir William Crookes, Lord Rayleigh, Prof. James, of Harvard University; Prof. S. P. Langley, of the Smithsonian Institution, and Prof. J. H. Hyslop, of Columbia University. The number of members in 1900 was as follows: Five honorary members, 25 corresponding members, 39 honorary associates, and 363 members and associates.

There is an American branch with 463 members, of which Dr. Richard Hodgson is the secretary. The society publishes "Proceedings" and a monthly "Journal," the latter being for private circulation.

"The investigation of things which suggest the 'uncanny' or 'supernatural' by scientific methods is a comparative novelty," said a distinguished scientist in this city. "Of course, I do not mean to say," he continued, "that some great minds in the past have not given attention to the subject, but they reached mere speculation. It is by modern methods of research which record, compare, and classify various observations and unify the labors of many into concrete masses of evidence and data that we may hope to obtain any real knowledge of so-called 'supernatural' phenomena.

"The two standpoints adopted by the masses in the consideration of such phenomena are those of exaggerated credulity and incredulity, both showing equal conditions of ignorance on the subject.

"Many persons will say to you that they do not believe that such or such an occurrence is possible, and if you ask them why they think so they simply reply, 'Well, because,' like a little girl of tender years and undeveloped mentality. Others place their faith too readily in reported supernatural occurrences or in the mistaken evidence of their own senses, which latter are very easily imposed upon.

"The subject is a very subtle and intricate one, upon which we have comparatively little authentic data. Nevertheless, we know that much of that species of belief that has been attributed by wonderfully 'enlightened' persons to superstition has very good ground.

"Take the recent investigations of Prof. W. F. Barrett on the subject of the divining rod, for instance. The present state of knowledge concerning the divining rod is summed up by Prof. Barrett as follows:

"'For some centuries past certain individuals, locally known as dowsers, have declared that they can discover the presence of underground water, mineral lodes, coal, building stone, or other buried objects which may be sought for by the apparently spontaneous motion of the so-called divining rod. When their pretensions have been tested the result, though by no means uniformly in their favor, has been so remarkable that chance coincidence appears a wholly inadequate explanation. Any explanation based upon trickery or unconscious hints from bystanders, or the detection of faint surface indications of the concealed object, or other known cause is insufficient to cover all facts. The movement of the rod, or forked twig, is only a special case of motor automatism exhibited by a large number of individuals, and arises from a sub-conscious and involuntary suggestion impressed on the mind of the dowser.

"'Accompanying the involuntary and usually unconscious muscular contraction which causes the motion of the forked twig or rod many dowsers experience a peculiar malaise, and some a violent convulsive spasm. This is a psycho-physiological effect, akin to emotion. Moreover, the state of mono-ideism of the dowser creates a condition of partial catalepsy, when some suggestion causes the idea to culminate. This sub-conscious suggestion may arise from a variety of causes; sometimes it is merely an auto-suggestion, at others it is unconsciously derived through the senses from the environment, but in a certain number of those who exhibit motor-automatism the suggestion appears to be due to some kind of transcendental perceptive power. Such persons appear only able to exercise this transcendental faculty when their normal self-consciousness is more or less in abeyance, or when it is completely submerged, as in profound hypnosis. This sub-conscious, perceptive power, commonly called clairvoyance, may provisionally be taken as the explanation of those successes of the dowser which are inexplicable on any grounds at present known to science.'"

The main point at issue on the subject of psychic phenomena, or rather that phrase called "spiritualism," appears to be whether the results are due to the intervention of the spirits of the departed, or to the intercourse between the "sub-conscious minds" of "medium" and "sitter."

The former explanation is that put forth generally by the mediums themselves, the latter by the majority of scientists. The hypothesis of the sub-conscious mind is, of course, but another form of the duality of the human mind. In other words, that there exists in every human being a mentality separate from the practical working brain, with which it is, nevertheless, capable of connection under certain circumstances. The medium, according to this theory, is a person who can compel—by the will of the ordinary mind, of course—the workings of the sub-conscious mind, which is capable of transcending the limitations of the five senses, and thus perceiving things invisible or beyond the cognizance of the ordinary mind.

The exact nature of this form of perception or cognizance, or by what means it is effected, the medium himself is unable to explain, attributing it in general, however, to the hypothesis that he is, for the time, under the control of the spirit of some departed person.

The operations of the sub-conscious mind, in mediums as well as in ordinary persons, are, therefore, held to be independent of the working mind, or else the former mentality is normally in abeyance. Whether the mediums or scientists be right in their respective conjectures, the fact remains that the manifestations of all forms of psychic phenomena have, especially of late, been so striking and extraordinary as to compel the attention and investigation of the scientific world.

Cruel.

(From the New York Weekly.)

Great Editor—That new society reporter won't do. He has not mastered the first principles of modern journalism.

Manager—Eh? What's the matter?

Great Editor—He says "handsomely dressed" instead of "smartly gowned."

THEIR MAIDEN SPEECHES.

Disraeli's, Gladstone's, and Parnell's First Efforts in Parliament.

One night early in 1833 (the year after he had failed in his contest as a Radical for the borough of High Wycombe) Benjamin Disraeli, sitting in the Strangers' Gallery of the House of Commons, listened to the debate on the address in which Lord John Russell, Macaulay, Stanley, Bulwer, and other leading members of the House took part. Next day he wrote to his sister: "Was at the House of Commons yesterday during the whole of the debate—one of the finest we have had for years. Macaulay was admirable, but, between ourselves, I could floor them all. This entre nous. I was never more confident of anything than that I could carry everything before me in that House. The time will come."

The time did come four years later, when on December 7, 1837, Disraeli, having been returned as a Tory, stood up in the House of Commons, to make his maiden speech. The story of that historic fiasco has never been fully told. What is generally known is that Disraeli was interrupted by bursts of ironical laughter almost from the beginning of his speech, and that at length, utterly unable to catch the ear of the House, he concluded by shouting at the utmost pitch of his voice the famous phrase: "Though I sit down now, the time will come when you will hear me." But the whole episode, what led up to it, and what followed is most interesting.

The subject of the debate was a motion by Mr. Smith O'Brien for a select committee to enquire into the alleged practice of vexatious petitioning against Irish members elected in the popular interest. Daniel O'Connell supported the motion, and it had been arranged that Sir Robert Peel should reply, but the strongly expressed wish of Disraeli that the duty might be given to him, backed as it was by many members of his party, induced the Tory leader to give way to his ardent young recruit.

There had been an absurd, though very bitter quarrel between O'Connell and Disraeli. O'Connell was one of Disraeli's sponsors when he carried the Radical flag on the hustings at High Wycombe in 1832. Three years later Disraeli, having turned Tory, attacked the Melbourne Administration, which was retained in power by the Irish party, for having clasped, as he put it, "the bloody hand of O'Connell." O'Connell retorted in a speech of savage vituperation in which he declared that Disraeli's life was a "living lie," and that he was a "descendant of the impenitent thief on the cross." Disraeli challenged O'Connell, but the Irishman, after killing D'Esterre in 1815, had made a vow against dueling, and always wore a black kid glove on his right hand as a token of his lifelong repentance for having shed another man's blood. "Then," wrote Disraeli, in a scathing letter to O'Connell, "we shall meet at Philippi." Now the two antagonists were face to face at Philippi—in the House of Commons, with, happily, the floor between.

Disraeli's failure on this occasion was not due to nervous timidity, but to the less amiable fault of over-confident fluency, to the young member's irritating self-assurance of manner, inspired, obviously, by the conviction that he was about to leap into Parliamentary fame at a single bound. This, with his foppish attire, his affected gestures, and the knowledge of his rapid change of political opinions, caused the British Radicals and the Irish Repealers, both led by the lusty lungs of O'Connell, to indulge in roars of ironical laughter and other disconcerting cries.

Macaulay, writing to a friend in Paris, a few days later, said, "Speaking of the House, Disraeli nearly killed it on Thursday night. You have, of course, seen his speech in 'Galignani.' Can you conceive the impudence of the Attorney General not knowing him personally and going up to him in the lobby and saying, 'A very pleasant speech of yours, Mr. Disraeli. Will you be kind enough to tell me what Lord John held beside the keys of St. Peter?' 'The red cap of liberty, sir.' During the performance, Peel quite screamed with laughter."

Gladstone's first appearance as a speaker in the arena in which he was for so long a period the most eloquent and predominant personality, was obscure and disappointing. He took his seat as a member for Newark on January 29, 1833, the opening day of the first session of the first Parliament elected under the Reform act—being then twenty-three years old.

Three weeks later, on February 21, he made his maiden speech. A petition signed by 3,000 Whigs of Liverpool was presented alleging bribery and corruptions against the Tory representatives of the town, and in the discussion which followed Gladstone interposed on behalf of the electoral honor of his native place.

"Every great orator from Demosthenes to Burke," Gladstone once said, "has suffered from nervousness on the eve of an important speech, and although I cannot claim to share their gift of golden speech, I can claim more than a fair share of their defect of nerves." Certainly he was extremely nervous on this occasion, as his indistinctness of utterance and hesitancy of manner only too obviously showed. That voice which subsequently held so many thousands spellbound by its music was inaudible from the gallery in which the reporters were taking notes. So little notice did this debut attract that a speech delivered in the House a few months later by his brother Thomas, in defence of their father, who was an owner of slaves on his estates at Demerara, has often been described in biographical sketches as Gladstone's maiden effort.

Lord Salisbury was twenty-four when, as Lord Robert Cecil, he took his seat in the House of Commons as a member for Stamford, in February, 1854. Two months later, on April 7, he delivered his first speech on Lord John Russell's University bill. "Hansard" gives it only eighteen lines of its narrow columns, and the members who immediately followed in the debate made no reference to it; but Gladstone, speaking later in the evening, recognized in generous terms the abilities of the young man who was destined after the lapse of thirty years to become his chief political rival. "This first effort, rich with promise," said he, "indicates that there still issue forth from the maternal bosom of the university men who in the first days of their career give earnest of what they may afterward accomplish for their country."

The most successful maiden speech of recent times was that of Sir William Harcourt. He was forty-one years old when he took his seat as member for Oxford on February 16, 1869, and just a week later addressed the House for the first time. The subject was happily one in which he was well versed. Viscount Bury asked for leave to introduce a measure entitled the Vacating of Seats bill, to repeal the statute of Queen Anne which makes it necessary for members of the House to seek re-election on accepting office in the Government, on the ground that it served no useful purpose. Mr. Vernon Harcourt (as he was then called) protested against leave being given even to bring in such a bill. The speech, which occupies six columns in "Hansard" and was loudly applauded throughout, induced Viscount Bury to withdraw his motion.

Nervousness is not commonly recognized as an Irish failing, but at least three celebrated Irishmen have in this century owned its mastery when up for the first time before the House of Commons. On April 26, 1875, when a Coercion bill for Ireland was in committee, Parnell rose to deliver his first speech. He was obviously and painfully nervous, and could only stammer out a few barely intelligible sentences about Ireland not being a geographical fragment.

Eighty years or so ago a distinguished Irish member named Dogherty, who subsequently became Chief Justice of Ireland, asked Canning what he thought of his maiden speech. "The only fault I can find with it," said Canning, "is that you called the Speaker sir too often. "My dear friend," said Dogherty, "if you knew the mental state I was in while speaking, you would not wonder if I had called him ma'am." Whiteside, another Irish member, who also became Chief Justice of Ireland, used to relate that when during his maiden speech he saw the Speaker's wig surrounded by blue flames he knew it was time to sit down.—Macmillan's Magazine.

ENGLAND'S SLOW HUMOR.

The Masses in Great Britain Seldom Go Beyond Puns.

Some Samples of the Jokes Appreciated in London—Catchwords Are Popular—Educated Classes Taking to American Vaudeville Wit.

There could hardly be a more competent authority than Mark Twain, who remarked a few months ago in conversation that he believed the English had fully as much sense of humor as his own countrymen. This is probably true of the educated classes, though there is somewhat more doubt about the man in the street. At any rate, the ideas of humor to be found on the two sides of the ocean are decidedly different, and an American going about here and reciting what he imagines to be jokes will frequently be met with the comment "really."

One thing that is diminishing the dissimilarity in the topic of humor is the constant interchange of music-hall jokes. Most of the funny stories or jests which become popular in either country are picked up by the vaudeville humorist, and there is a constant passage of jokes through this channel between the two countries. Differences still exist, as in the greater popularity of the pun in London. One of the stories that is going about just now deals with the revival of "Coriolanus," which was not a great success. During one of the later rehearsals a consultation was held on the stage between Sir Henry Irving, Sir Alexander Mackenzie, who wrote the music, and Sir Lawrence Alma Tadema, who designed the scenery.

"Three blooming knights," remarked a supernumerary.

"Yes," replied another, "and that's about as long as the piece will run."

The most popular form of humor for the moment is also one species of plays on words, though the punning questions and answers are perhaps less in vogue than they were some months ago. Possibly your readers will be able to stand two illustrations.

"Who taught Water Loo?"

"The same man that taught London Bridge."

"What did Anthony Hope?"

"To Quisante."

English humor deals less with exaggeration than ours does. Speaking of the most popular music-hall comedian in England, a leading actor-manager gave the favorable expression of this difference the other day when he said: "Dan Leno's humor is American. It sort of leaves something to the imagination." It is partly his use of grotesque enlargement that makes the fate of Mark Twain over here an uncertain one. I have heard a number of the most prominent literary men comment on him with surprising unanimity. They all believe that he is a great humorist, a man of horsepower, as one of them put it; the most considerable literary man of our day in America as most of them believe, but they draw a sharp line. Where they would appreciate fully and even generously, "Tom Sawyer," "Huckleberry Finn," and, indeed, all the books dealing with American life, their sense of respect for certain long-established things is rather shocked by part of Mr. Clemens' work.

One of the cleverest novelists here said that "A Yankee at the Court of King Arthur" had ruined some of the most beautiful stories in the language, and a critic and historian agree with him. It would be hard to imagine an American failing to enjoy that book, or to have his pleasure in Sir Thomas Malory, Sir Walter Scott or Tennyson spoiled by reading it. Another novelist, just now extremely in evidence with historical or pseudo-historical fiction, said that all young English boys read "Innocents Abroad" and "A Tramp Abroad," and thereby lost the best pleasures of travel. An English critic said that it was impossible to be funny in talking about a ruin. I asked him if it could be humorous to make fun of a well-built, high building, and tried to make him take the view that feelings of residence must vary with the individual experience, but only succeeded in drawing from him a confident assertion that there was something innately ridiculous in the new and something holy in the old. After a long debate leading nowhere, I was reminded of the Englishman who said: "French is such a silly language. For instance, you call bread, pain."

"Yes," replied the Frenchman, "but to us, you know, it is just as strange to call pain bread."

The Englishman reflected. "I suppose it is," he said finally, "but then it is bread, you know."

This conservatism, however, ought not to be exaggerated, for a wrong impression might easily be conveyed. For instance, although the most brilliant toying with certain legends or certain ruins might seem only sacrilege, the air is full of stories which take a light view of the divinity that doth hedge a king. After the late Queen died one of her little grandchildren, being told that she was in heaven, asked if she would have to go out behind the angels, and added that she would not like that. Very likely some of the alleged answers of the present King to his old friends have reached your side before this. One of the most amusing was in reply to a letter from a woman who, having known him very intimately as the Prince of Wales, congratulated him on his accession, and signed herself "Yours affectionately." In a few days she received a note, signed by a secretary, to the following effect: "His Majesty commands be to acknowledge your letter of such and such date, and to say that he hopes he has the affection of all his subjects."

When it comes to the upper forms of humor—not to deciding on which side the sense of humor is most widely distributed, but rather where it is most highly developed—I feel that England is as far ahead of us in this as she is in general literature. Probably the only man to compare with Mark Twain in the height of his reputation as a humorist is Gilbert, but when we leave the very top you will find several writers of very finished humor in England for one in America. Doubtless when America has more literature, a large part of it will be humorous, to fit the genius of the people. But that time has not come yet. Even the difference between the two countries in after-dinner speaking could easily be overstated. Doubtless there are more men in America who could make good after-dinner speeches, but it would not be easy to find in America any better post-prandial speakers than Zangwill, Anthony Hope, and various others. Englishmen seldom tell stories of any length. How that may affect their stump speaking is another question, but certainly humor at a dinner table is better when it does not take the form of a narrative. The notion, however, that one of our trans-Atlantic characteristics is the power to make witty speeches on the slightest provocation is widespread here, and is very likely to put the American who lacks that accomplishment in various embarrassing predicaments.—Boston Transcript.

A Medical Joke.

(From the Boston Herald.)

He was a horrid doctor, anyway, and no gentleman, or he would not have been so cruel to the fair young girl who sought his aid. But even doctors are human and like to joke.

"Doctor," she said, "I am afraid this climate is too severe for me. I have such great trouble breathing with my lungs."

"You would have a great deal more trouble breathing without them," replied the cruel man, with a loud, hoarse laugh.

The maiden shrunk from such a wicked man and fled as though pursued by a mouse.